AMENDED CLAIMS

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A vacuum insulated building panel which covers a plane surface on the outside of a building frame,

said panel consisting of an outward facing weather exposed exterior steel plate and an identical inward facing interior steel plate which are juxtaposed to each other and separated at their edges by a plastic or wood post frame,

said post frame usually forming a quadrangular shape, depending on the shape of the plane surface being covered, consisting of a post positioned along each of the 4 straight sections of said post frame,

said post frame and said plates forming an enclosure called a vacuum chamber from which air is withdrawn to create a vacuum, said vacuum creating an implosive suction pressure on the inside surfaces of said post frame and plates,

said post frame and said plates also enclosing a lattice framework consisting of a network of equally spaced cross members that block the suction pressure of the vacuum on the post frame,

said cross members forming equal sized approximately square shapes, at the center of each such square shape a spacer, in the form of and referred to as a sphere, is placed to block the suction pressure of the vacuum on the plates, and

said post frame and said plates being held in their respective relative positions to each other by a bolt that passes through the two plates and the post frame at an anchor point in any location away from the vacuum chamber along the perimeter of

the panel, thereby preventing creeping of either plate in relation to the post frame,

wherein warping, which would destroy the practicability of the panel if the plates were attached to the post frame by such rigid means as glue or screws, is eliminated by using the suction pressure of the vacuum as the sole means of attaching the plates to the post frame, thereby permitting either plate to move in relation to the post frame due to thermal expansion or contraction without forcing an accompanying movement of the post frame and without threatening the airtight attachment of said plates to said post frame.

2. A vacuum insulated building panel as defined in Claim 1

wherein the separation of the interior and exterior plates is maintained against the suction pressure of the vacuum by placing a sphere between the said plates at the center of each square shape formed by the cross members of the lattice framework, the sphere rolling in sympathy with any thermally induced expansion or contraction of either of the said plates.

3. A vacuum insulated building panel as defined in Claim 1

wherein the spheres that maintain the separation of plates are each contained in a sling that holds it in its proper location when the panel is not under vacuum and permits it to roll in response to thermally induced expansion or contraction that occurs in one plate of the panel but not in the other when the panel is under vacuum, each sling consisting of a girdle which loosely encircles each sphere and is attached by cord or wire in opposite directions that line up with the anchor point of the panel firstly

to a coil spring in each said direction and thereafter to cross members of the lattice framework.

4. A vacuum insulated building panel, referred to herein as a window panel, that is incorporated into a steel plated panel, referred to herein as a host panel, to cover and fill a window opening in a building frame,

said window panel consisting of an exterior glass plate and an identical interior glass plate which are juxtaposed to each other and separated at their outer edges by a plastic or wood post frame,

said post frame and said plates forming an enclosure called a vacuum chamber from which air is withdrawn to create a vacuum, said vacuum creating an implosive suction pressure on the inside surfaces of said post frame and said plates,

wherein said plates are attached to the post frame solely by the suction pressure of the vacuum to the exclusion of any other rigid means of attachment such as glue, thereby permitting thermally induced movement of either plate in relation to the post frame without threatening the airtight attachment of said plates to said post frame while at the same time eliminating the cause of warping.

5. A vacuum insulated building panel as defined in Claim 4

in which the vacuum chamber of the window panel is connected to the vacuum chamber of its host panel by means of a single air passage located at midpoint of the bottom horizontal post of the post frame, and

in which a steel ball is moved by means of a hand held

magnet to cover and plug the air passage to the host panel when the degree of vacuum pressure intended for the window panel is attained, after which the pressure in the host panel can be increased without further increase of pressure in the window panel.

6. A vacuum insulated building panel as defined in Claim 1

wherein the post frames of panels above ground level are erected in a contiguous manner with each two adjoining panels being served by a single post, provision is made to accommodate any contraction of the total post frame structure caused by temperature change by erecting panels sufficiently away from and unattached to the building frame except at a single location on the roof of the building.

7. A vacuum insulated building panel as defined in Claim 1

wherein the plates of such panels are subject to thermally induced expansions and contractions on daily and seasonal bases, and are unattached to post frames by any means other than the suction pressure of the vacuum and at a single anchor point in each panel, are provided sufficient space to accommodate any such expansions and contractions.